radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plans. The Basin Plans state that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plans include numeric and narrative water quality objectives for various beneficial uses and water bodies. This General Order contains receiving surface water limitations based on the Basin Plans' numerical and narrative water quality objectives for ammonia, bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** The Delta Mercury Control Program was designed to proceed in two phases. Phase 1 spans a period of approximately 9 years. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. At the end of Phase 1, the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the Final Compliance Date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load allocations and WLA's after implementing all reasonable load reduction strategies. The fish tissue objectives, the linkage analysis between objectives and sources, and

the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules may be adjusted at the end of Phase 1, or subsequent program reviews, as appropriate. Therefore, this Order may be reopened to address changes to the Delta Mercury Control Program.

b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a site-specific TRE or, under certain circumstances, may be allowed to participate in an approved TES in lieu of conducting a site-specific TRE. This Order may be reopened to include a new chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE and/or TES.

c. **Water Effects Ratios and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents, except for copper (United States Department of the Interior, National Park Service, Yosemite National Park, El Portal Wastewater Treatment Facility; United Auburn Indian Community, Thunder Valley Casino Wastewater Treatment Plant; City of Grass Valley, Wastewater Treatment Plant; City of Auburn, Wastewater Treatment Plant; City of Galt, Wastewater Treatment Plant and Reclamation Facility; Cutler-Orosi Joint Powers Wastewater Authority, Wastewater Treatment Facility; El Dorado Irrigation District, El Dorado Hills Wastewater Treatment Plant; El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant; and Donner Summit Public Utility District, Wastewater Treatment Plant) and zinc (City of Grass Valley, Wastewater Treatment Plant; and El Dorado Irrigation District, Deer Creek Wastewater Treatment Plant). In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations, except for copper and zinc (City of Grass Valley, Wastewater Treatment Plant).

   If a Discharger performs studies to determine site-specific WER's and/or site-specific dissolved-to-total metal translators, this General Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

d. **Drinking Water Policy.** On 26 July 2013 the Central Valley Water Board adopted Resolution No. R5-2013-0098 amending the Basin Plan and establishing a Drinking Water Policy. The State Water Board approved the Drinking Water Policy on 3 December 2013. This Order may be reopened to incorporate monitoring of drinking water constituents to implement the Drinking Water Policy.

e. **Diazinon and Chlorpyrifos Basin Plan Amendment.** Diazinon is a pesticide that has been banned for residential use; however, it sometimes is still detected in surface waters. There are existing water quality objectives in the Basin Plan for diazinon in the Feather River, Sacramento River, San Joaquin River, and Sacramento-San Joaquin Delta. In addition, the Central Valley Water Board adopted a Basin Plan Amendment to provide an implementation plan for NPDES-permitted domestic wastewater dischargers. The Basin Plan Amendment will also apply diazinon water quality objectives to additional surface waterbodies. The State Water Board and the Office of Administrative Law have both approved the Basin Plan Amendment. U.S. EPA action on the Basin Plan Amendment is pending. This Order will be reopened to modify diazinon effluent limitations, as appropriate, in accordance with amendments to the Basin Plan.

f. **Sacramento and San Joaquin River, and Tulare Lake Basin Variances for Salinity.** On 6 June 2014, the Central Valley Water Board adopted Resolution No.

R5-2014-0074, *Amendments to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to Add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity,* which became effective under the Clean Water Act on 8 July 2016 upon approval by U.S. EPA.

g. **Basin Plan Amendment – Salinity Objectives for the Lower San Joaquin River.** The Central Valley Water Board adopted a Basin Plan Amendment on 9 June 2017, which establishes salinity water quality objectives in the Lower San Joaquin River form Merced River to Vernalis. Furthermore, the Basin Plan Amendment modified the Salt and Boron TMDL to clarify that NPDES point source dischargers could participate in the real-time salinity management program in lieu of complying with the wasteload allocations. Therefore, this Order may be reopened to modify salinity requirements, as appropriate, in accordance with the Basin Plan Amendment upon approval by the State Water Board, Office of Administrative Law, and U.S. EPA.

2. **Special Studies and Additional Monitoring Requirements**

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan for the Sacrament and San Joaquin River Basins at page III-8.00 and Basin Plan for the Tulare Lake Basin at page III-6.)

The Monitoring and Reporting Program of this Order requires chronic WET monitoring for demonstration of compliance with the narrative toxicity objective or numeric chronic toxicity effluent limitation. In addition to WET monitoring, this provision includes requirements for TRE initiation if toxicity is demonstrated. This provision also allows for Dischargers to conduct a site-specific Toxicity Evaluation Study (TES) in lieu of a TRE.

A TES may be conducted in lieu of a TRE if the percent effect is less than 50%. Determining the cause of toxicity can be challenging when the toxicity signal is low. Several Central Valley facilities with similar treatment systems have been experiencing intermittent low level toxicity. The dischargers have not been successful identifying the cause of the toxicity because of the low toxicity signal and the intermittent nature of the toxicity. Due to these challenges, the Central Valley Clean Water Association (CVCWA), in collaboration with staff from the Central Valley Water Board, has initiated a Special Study to Investigate Low Level Toxicity Indications (Group Toxicity Study). This Order allows the Discharger to participate in an approved TES, which may be conducted individually or as part of a coordinated group effort with other similar dischargers that are exhibiting toxicity. Although the current CVCWA Group Toxicity Study is related to low-level toxicity, participation in an approved TES is not limited to only low-level toxicity issues.

If the chronic toxicity is > 1 TUc (as 100/NOEC) **AND** the percent effect is ≤ 50 percent at **100** percent effluent, as the median of three consecutive bioassays collected within a 6 week period (see section VII.C.2.a.iv.(b) of the Order), the Discharger may participate in an approved TES in lieu of a TRE.

See the WET Monitoring Flow Chart (Figure F-1), below, for further clarification of the decision points for determining the need for TES/TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Workplan in accordance with U.S. EPA guidance. Numerous guidance documents are available, as identified below:

i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.

ii. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.

iii. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition*, EPA 600/6-91/003, February 1991.

iv. *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, May 1992.

v. *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA/600/R-92/080, September 1993.

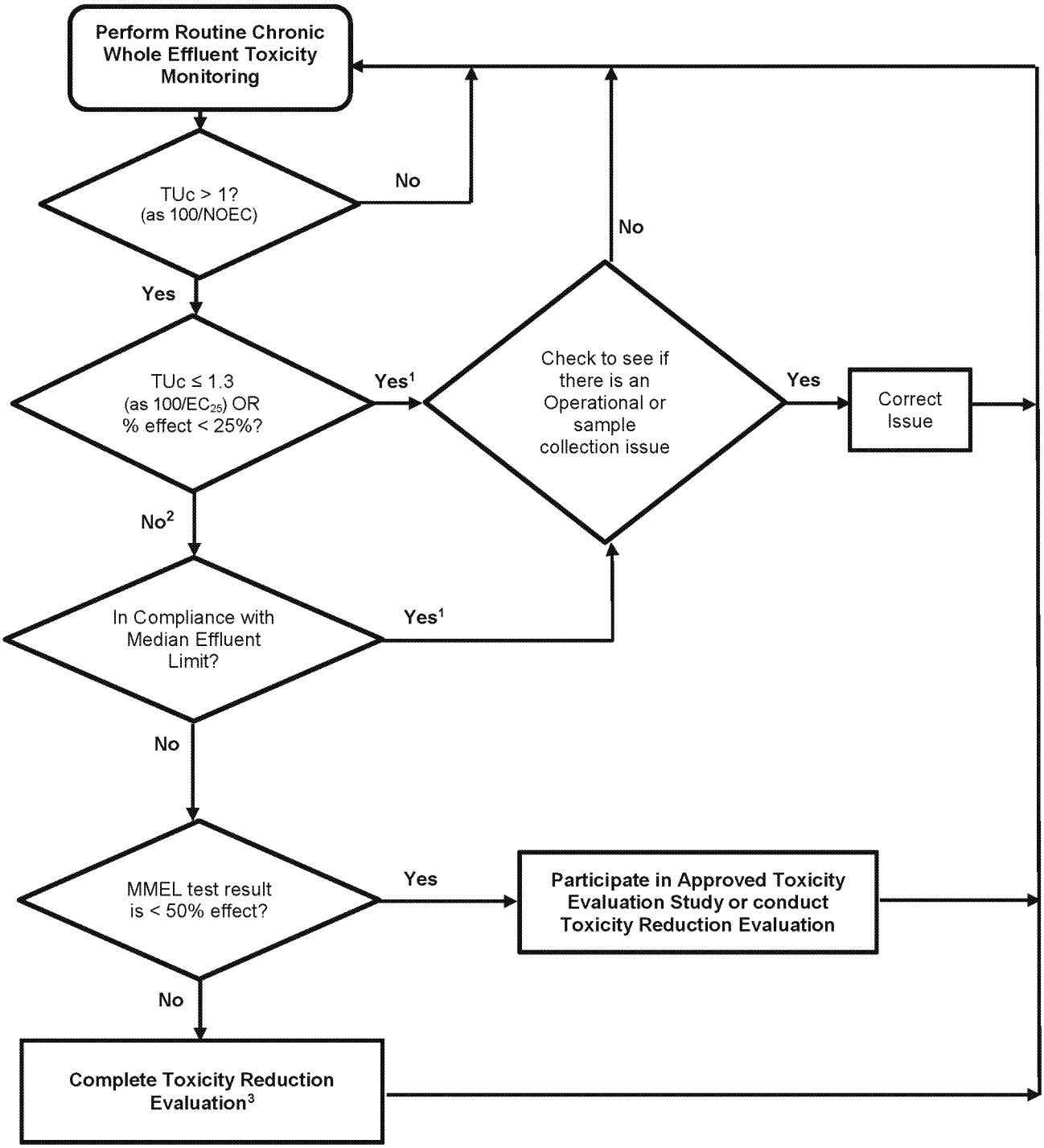
vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA 600/R-92/081, September 1993.

vii. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, EPA-821-R-02-012, October 2002.

viii. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA-821-R-02-013, October 2002.

ix. *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

Figure F-1
WET Monitoring Flow Chart



[1] The Discharger may participate in an approved TES if the discharge has exceeded the chronic toxicity effluent limitations or monitoring trigger twice or more in the past 12 month period and the cause is not identified and/or addressed.
[2] The Discharger may elect to take additional samples to determine the 3 sample median. All samples shall be collected within 6 weeks of each other.
[3] The Discharger may participate in an approved TES instead of a TRE if the Discharger has conducted a TRE within the past 12 months and has been unsuccessful in identifying the toxicant.

Site-specific Toxicity Evaluation Study. This General Order covers some facilities that provide tertiary level treatment of municipal wastewater disinfected by UV treatment or chlorine. Sources of wastewater may include commercial, industrial, storm water, dry-weather diversions from MS4s, and domestic sources. These discharges are a high-quality effluent, but intermittent, chronic toxicity has been observed at times. This provision allows these Dischargers to conduct a site-specific TES to investigate the cause of toxicity, individually or as part of a coordinated group effort with other dischargers that evaluate low level and intermittent toxicity in effluent (TUc ≤ 1.3 and percent effect is ≤ 25% or the discharge has exceeded the MMEL twice or more in the past 12 month period and the cause is not identified and/or addressed). The study can be conducted in lieu of a TRE/TIE. Some studies completed within the Central Valley Region focusing on the role of the UV process in causing toxicity indicated, though not conclusively, that free radicals may play a role in the observed toxicity in effluent disinfected by a UV system (City of Woodland TIE/TRE findings from 2009-2014, Robertson-Bryan, Inc.).

b. **Phase 1 Methylmercury Control Study. Phase 1 Methylmercury Control Study.** The Delta Mercury Control Program requires NPDES dischargers, working with other stakeholders, to conduct methylmercury control studies (Control Studies) to evaluate existing control methods and, as needed, develop additional control methods that could be implemented to achieve their methylmercury load and waste load allocations. Control studies can be developed through a stakeholder group approach or other collaborative mechanism, or by individual dischargers. The Dischargers have agreed to participate in the Central Valley Clean Water Association (CVCWA) Coordinated Methylmercury Control Study (Study).

The Central Valley Water Board will use the Phase 1 Control Studies' results and other information to consider amendments to the Delta Mercury Control Program during the Phase 1 Delta Mercury Control Program Review. The objective of the Control Studies is to evaluate existing control methods and, as needed, develop additional control methods that could be implemented to achieve the methylmercury load and wasteload allocations. In accordance with the Delta Mercury Control Plan, a workplan was submitted on 20 April 2013 by CVCWA on behalf of a group of POTW's in the region. The Central Valley Water Board commits to supporting an adaptive management approach. The adaptive management approach includes the formation of a Stakeholder Group(s) and a Technical Advisory Committee (TAC).

The Study shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve the methylmercury allocation. The Study also may include an evaluation of innovative actions, watershed approaches, offsets projects, and other short and long-term actions that result in reducing inorganic (total) mercury and methylmercury to address the accumulation of methylmercury in fish tissue and to reduce methylmercury exposure. The Study may evaluate the effectiveness of using inorganic (total) mercury controls to control methylmercury discharges. The Study shall include a description of methylmercury and/or inorganic (total) mercury management practices identified in Phase 1; an evaluation of the effectiveness; and costs, potential environmental effects, and overall feasibility of the control actions. The Study shall also include proposed implementation plans and schedules to comply with methylmercury allocations as soon as possible. The Study shall be submitted by **20 October 2018**.

The Executive Officer may authorize extending the Study due date. The Executive Officer may, after public notice, extend the due date up to 2 years if the Discharger demonstrates it is making significant progress towards developing, implementing

and/or completing the Study and reasonable attempts have been made to secure funding for the Study, but the Discharger has experienced severe budget shortfalls.

3. **Best Management Practices and Pollution Prevention**

   a. **Water Code Section 13263.3(d)(3) Pollution Prevention Plans.** A pollution prevention plan for mercury is required in this Order for Dischargers within the Sacramento-San Joaquin Delta per Water Code section 13263.3(d)(1)(C). The pollution prevention plans required in section VI.C.3.a of this Order, shall, at a minimum, meet the requirements outlined in Water Code section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:

      i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.

      ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.

      iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.

      iv. A plan for monitoring the results of the pollution prevention program.

      v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.

      vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.

      vii. A description of the Discharger's existing pollution prevention programs.

      viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.

      ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

   b. **Mercury Exposure Reduction Program.** The Basin Plans' Delta Mercury Control Program requires Dischargers to participate in a Mercury Exposure Reduction Program. The Exposure Reduction Program is needed to address public health impacts of mercury in Delta fish, including activities that reduce actual and potential exposure of and mitigate health impacts to those people and communities most likely to be affected by mercury in Delta caught fish, such as subsistence fishers and their families. The Exposure Reduction Program must include elements directed toward:

      i. Developing and implementing community-driven activities to reduce mercury exposure;

ii. Raising awareness of fish contamination issues among people and communities most likely affected by mercury in Delta-caught fish such as subsistence fishers and their families;

iii. Integrating community-based organizations that serve Delta fish consumers, Delta fish consumers, tribes, and public health agencies in the design and implementation of an exposure reduction program;

iv. Identifying resources, as needed, for community-based organizations and tribes to participate in the Program;

v. Utilizing and expanding upon existing programs and materials or activities in place to reduce mercury, and as needed, create new materials or activities; and

vi. Developing measures for program effectiveness.

This General Order requires Dischargers participate in a Mercury Exposure Reduction Program (MERP) in accordance with the Delta Mercury Control Program. The Dischargers have elected to provide financial support in the collective MERP with other Delta dischargers, rather than be individually responsible for any MERP activities. The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The workplan shall address the Exposure Reduction Program objective, elements, and the Dischargers' coordination with other stakeholders. The Dischargers shall integrate or, at minimum, provide good-faith opportunities for integration of community-based organizations, tribes, and consumers of Delta fish into planning, decision making, and implementation of exposure reduction activities. The Dischargers shall continue to participate in the group effort to implement the workplan. The MERP requirements are subject to change depending on future Central Valley Water Board action.

c. **Salinity Evaluation and Minimization Plan.** A Salinity Evaluation and Minimization Plan is required to be implemented in this General Order to ensure adequate measures are developed and implemented by the Dischargers to reduce the discharge of salinity to receiving waters. For discharges that must protect the MUN beneficial use with a calendar year annual average effluent electrical conductivity concentration above 900 µmhos/cm, the Notice of Applicability will require the Discharger to submit and implement a Salinity Evaluation and Minimization Plan if one has not already been submitted. This General Order also includes performance-based triggers for submitting an updated Salinity Evaluation and Minimization Plan to address increasing effluent salinity levels.

4. **Construction, Operation, and Maintenance Specifications**

a. **Filtration System Operating Specifications.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order, turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process with granular media filtration is capable of reliably meeting a turbidity limitation of 2 NTU as a daily average. The tertiary treatment process with membrane filtration is capable of reliably meeting a turbidity limitation of 0.2 NTU more than 5 percent of the time within a 24-hour period, respectively. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not

exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU for granular media filtration. The operational specification requires that turbidity prior to disinfection shall not exceed 0.2 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 0.5 NTU for membrane filtration.

b. **UV Disinfection System Operating Specifications.** Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order must ensure that wastewater is oxidized, coagulated (as needed), filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement.

   The National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWRF) "*Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse*" first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines) include UV operating specifications for compliance with Title 22. For water recycling in accordance with Title 22, the UV system shall be an approved system included in the *Treatment Technology Report for Recycled Water*, December 2009 (or a later version, as applicable) published by the DDW. The UV system shall also conform to all requirements and operating specifications of the NWRI guidelines. A memorandum dated 1 November 2004 issued by DDW to Regional Water Board executive officers recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring dischargers to establish fixed cleaning frequency of lamp sleeves, as well as, include provisions that specify minimum delivered UV dose that must be maintained (per the NWRI Guidelines).

   For granular media filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 100 mJ/cm^2. Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 100 mJ/cm^2 and a minimum hourly average UV transmittance of 55% for granular media filtration systems, per the NWRI Guidelines. For membrane filtration, the NWRI Guidelines recommend a minimum hourly average UV dose of 80 mJ/cm^2. Therefore, this Order includes UV operating specifications requiring a minimum hourly average UV dose of 80 mJ/cm^2 and a minimum hourly average UV transmittance of 65% for membrane filtration systems, per the NWRI Guidelines. If a Discharger conducts a site-specific UV engineering study that demonstrates a lower UV dose meets a Title 22 equivalent virus removal, the Notice of Applicability may include alternative UV operating specifications based on the engineering study.

c. **Pond Operating Specifications.** The pond operating specifications are necessary to protect the public and the beneficial uses of the groundwater, and to prevent nuisance conditions.

5. **Special Provisions for Municipal Facilities (POTW's Only)**

   a. **Pretreatment Requirements**

      i. As specified in the Notice of Applicability, Dischargers with a total design flow greater than 5 MGD and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards shall comply with the following pretreatment requirements. The Notice of Applicability may also require compliance with the following requirements for POTW's with a design flow of 5 MGD or less if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through.

      ii. The federal CWA section 307(b), and federal regulations, 40 C.F.R. part 403, require POTW's to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 C.F.R. part 403.

      iii. The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Central Valley Water Board, the State Water Board or U.S. EPA may take enforcement actions against the Discharger as authorized by the CWA.

   b. The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (State Board General Order) on 2 May 2006. The Monitoring and Reporting Requirements for the State Board General Order were amended by Water Quality Order WQ 2008-0002-EXEC on 20 February 2008. The State Board General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the State Board General Order. The State Board General Order requires agencies to develop sanitary sewer management plans (SSMP's) and report all sanitary sewer overflows (SSO's), among other requirements and prohibitions.

      Furthermore, the State Board General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Discharger's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions, section VII. For instance, the 24-hour reporting requirements in this Order are not included in the State Board General Order. The Discharger must comply with both the State Board General Order and this Order. The Discharger and public agencies that are discharging wastewater into the facility were required to obtain enrollment for regulation under the State Board General Order by 1 December 2006.

   c. **Anaerobically Digestible Material.** Managers of POTW's increasingly are considering the addition of organic material such as food waste, fats, oils and grease (FOG) into their anaerobic digesters for co-digestion. Benefits of accepting these materials include increasing the volume of methane and other biogases available for energy production and ensuring such materials are disposed of at the POTW instead

of discharged into the collection system potentially causing sanitary sewer overflows. The State Water Board has been working with the California Department of Resources Recycling and Recovery (CalRecycle), the California Department of Food and Agriculture (CDFA), and the California Association of Sanitation Agencies (CASA) to delineate jurisdictional authority for the receipt of hauled-in anaerobically digestible material (ADM[1]) at POTW's for co-digestion.

CalRecycle is proposing an exclusion from Process Facility/Transfer Station permits for direct injection of ADM to POTW anaerobic digesters for co-digestion that are regulated under WDR's or NPDES permits. The proposed CalRecycle exclusion is restricted to ADM that has been prescreened, slurried, and processed/conveyed in a closed system to be co-digested with regular POTW sludge. The CalRecycle exclusion assumes that a POTW has developed Standard Operating Procedures (SOP's) for the proper handling, processing, tracking, and management of the ADM received.

If a Discharger proposes to receive hauled-in ADM for injection into its anaerobic digester for co-digestion, this provision requires the Discharger to notify the Central Valley Water Board and develop and implement SOP's for this activity prior to initiation of the hauling. The requirements of the SOP's are discussed in Section VII.C.5.d.

d. **Sludge/ Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

6. **Other Special Provisions**

a. **Title 22, or Equivalent, Disinfection Requirements.** For Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order, this Order requires wastewater to be oxidized, coagulated (as needed), filtered, and adequately disinfected pursuant to DDW reclamation criteria, CCR, Title 22, division 4, chapter 3 (Title 22), or equivalent. Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DDW's reclamation criteria because the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation.

[1] CalRecycle has proposed to define "anaerobically digestible material" to include inedible kitchen grease as defined in Food and Agricultural Code section 19216, food material as defined in California Code of Regulations, title 14, section 17852 and vegetative food material.

7. **Compliance Schedules**

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

a. **Methylmercury for the City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility.** The effluent limitations for methylmercury for Dischargers in the Sacramento-San Joaquin Delta (i.e., City of Lodi, White Slough Water Pollution Control Facility; and City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility) are more stringent than effluent limitations previously imposed. These limitations are based on the Basin Plans' Delta Mercury Control Program that became effective on 20 October 2011. The Dischargers have complied with the application requirements in paragraph 4 of the State Water Board's Compliance Schedule Policy, and the Dischargers' applications demonstrate the need for additional time to implement actions to comply with the new limitations, as described below. Therefore, a compliance schedule for compliance with the effluent limitations for methylmercury has been maintained in this Order from previous individual Orders for the respective Dischargers.

A compliance schedule is necessary because the Dischargers must implement actions, including a Phase 1 Methylmercury Control Study and possible facility upgrades to comply with the final effluent limitations.

The Dischargers have made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream. The City of Manteca and Dutra Farms, Inc., Wastewater Quality Control Facility collected monthly monitoring for mercury and methylmercury during the term of Order R5-2009-0095 and has also developed and continues to implement a PPP for mercury, as required by Order R5-2009-0095. The City of Lodi, White Slough Water Pollution Control Facility is currently implementing a pollution prevention plan for mercury that was submitted to the Central Valley Water Board on 9 September 2010.

The compliance schedules are as short as possible. The Central Valley Water Board will use the Phase 1 Control Studies' results and other information to consider amendments to the Delta Mercury Control Program during the Phase 1 Delta Mercury Control Program Review. Therefore, at this time it is uncertain what measures must be taken to consistently comply with the waste load allocation for methylmercury. The interim effluent limits and final compliance date may be modified at the completion of Phase 1.

Interim performance-based limitations are included in this Order. The interim limitations were determined as described in section IV.E.2, and are in effect until the

final limitations take effect. The interim numeric effluent limitations and source control measures will result in the highest discharge quality that can reasonably be achieved until final compliance is attained.

VIII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for discharges of treated municipal wastewater to surface water.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements).
2. This General Order establishes baseline influent monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the influent. The Executive Officer may specify more or less frequent monitoring frequencies in the Notice of Applicability, considering the site-specific conditions of the discharge.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. This General Order establishes baseline effluent monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the effluent and determine compliance with effluent limitations, where applicable. The Executive Officer may specify more frequent monitoring in the Notice of Applicability, considering the site-specific conditions of the discharge.
3. The Notice of Applicability will identify the specific constituents to be monitored and the associated monitoring frequencies. At a minimum, all Dischargers will be required to monitor for flow, BOD_5, pH, TSS, ammonia, dissolved oxygen, electrical conductivity, hardness, nitrate plus nitrite, temperature, total coliform organisms, and for any constituents subject to effluent limitations as identified in the Notice of Applicability.
4. Water Code section 13176, subdivision (a), states: "*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.*" The DDW certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the federal CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The federal maximum holding time is 15 minutes for chlorine residual, dissolved oxygen, pH, and other constituents as listed in the Notice of Applicability, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) Due to the location of some facilities and their distance from certified laboratories, it is factually impossible for the Discharger to comply with both Water Code section 13176 and the federal requirements for constituents with short holding times. In this situation Water Code section 13176(a) is inapplicable.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity. The frequency of testing shall be specified in the Notice of Applicability from the Executive Officer.
2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plans' narrative toxicity objective or MMEL, if required. The frequency of testing shall be specified in the Notice of Applicability from the Executive Officer.

D. Receiving Water Monitoring

1. **Surface Water**

   a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. This General Order establishes baseline receiving water monitoring frequencies for major and minor Dischargers, which were determined through evaluation of monitoring requirements in individual NPDES permits for Dischargers that are potentially eligible for coverage under this General Order. The Central Valley Water Board finds that these frequencies will be sufficient to characterize the receiving water and determine compliance with receiving water limitations, where applicable. The Executive Officer may specify more frequent monitoring in the Notice of Applicability, considering the site-specific conditions of the discharge.

      The Calaveras County Water District, Copper Cove Wastewater Reclamation Facility is not required to monitor Littlejohns Creek due to the de minimis amount of reclaimed water expected in overflows from the wetlands to Littlejohns Creek and because the effluent limitations must be met at the point of discharge to Pond NC-2D. The Nevada County Sanitation District No. 1, Cascade Shores Wastewater Treatment Plant is not required to monitor Gas Canyon Creek because access to Gas Canyon Creek is limited and unsafe most of the year.

   b. **Delta Regional Monitoring Program.** The Central Valley Water Board requires individual dischargers and discharger groups to conduct monitoring of Delta waters and Delta tributary waters in the vicinity of their discharge, known as ambient (or receiving) water quality monitoring. This monitoring provides information on the impacts of waste discharges on Delta waters, and on the extant condition of the Delta waters. However, the equivalent funds spent on current monitoring efforts could be used more efficiently and productively, and provide a better understanding of geographic and temporal distributions of contaminants and physical conditions in the Delta, and of other Delta water quality issues, if those funds were used for a coordinated ambient monitoring effort, rather than continue to be used in individual,

uncoordinated ambient water quality monitoring programs. The Delta Regional Monitoring Program will provide data to better inform management and policy decisions regarding the Delta.

This General Order allows Dischargers in and outside the Delta in the Delta to elect to participate in the Delta Regional Monitoring Program in lieu of conducting all or part of the individual receiving water monitoring required in the Monitoring and Reporting Program. If the Discharger elects to cease individual receiving water monitoring and participate in the Delta Regional Monitoring Program, the Discharger shall submit a letter signed by an authorized representative to the Executive Officer informing the Central Valley Water Board that the Discharger will participate in the Delta Regional Monitoring Program and the date on which individual receiving water monitoring under Attachment E, Sections VIII.A.1 and VIII.A.2, will cease or be modified. Approval by the Executive Officer is required, and contingent on Delta Regional Monitoring Program Steering Committee action on the forthcoming Regional Monitoring Program monitoring plan.

Delta Regional Monitoring Program data are not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Permit. Delta Regional Monitoring Program monitoring stations are established generally as "integrator sites" to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring Program monitoring stations would not normally be able to identify the source of any specific constituent, but would be used to identify water quality issues needing further evaluation. Delta Regional Monitoring Program monitoring data may be used to help establish background receiving water quality for an RPA in an NPDES permit after evaluation of the applicability of the data for that purpose. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, effluent data from the Discharger's discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

If the Discharger begins to participate in the Delta Regional Monitoring Program in lieu of individual receiving water monitoring, the Discharger shall continue to participate in the Delta Regional Monitoring Program until such time as the Discharger informs the Board that participation in the Delta Regional Monitoring Program will cease and individual monitoring is reinstituted. Receiving water monitoring under Attachment E, Sections VIII.A.1 and VIII.A.2, is not required under this Order so long as the Discharger adequately supports the Delta Regional Monitoring Program. Participation in the Delta Regional Monitoring Program by a Discharger shall consist of providing funds and/or in-kind services to the Delta Regional Monitoring Program at least equivalent to discontinued individual monitoring and study efforts. If a Discharger or discharger group fails to maintain adequate participation in the Delta Regional Monitoring Program, as determined through criteria to be developed by the Delta Regional Monitoring Program Steering Committee, the Steering Committee will recommend to the Central Valley Water

Board that an individual monitoring program be reinstated for that discharger or discharger group.

If the Discharger is participating in the Delta Regional Monitoring Program as described in Attachment E, Section VIII, the receiving water portion of the required Characterization Monitoring need not be conducted by the Discharger. Instead, data from the Delta Regional Monitoring Program will be utilized to characterize the receiving water in the permit renewal. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger and submit that monitoring data with this Characterization Monitoring. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Historic receiving water monitoring data taken by the Discharger and from other sources may also be evaluated to determine whether or not that data are representative of current receiving water conditions. If found to be representative of current conditions, then that historic data may be used in characterizing receiving water quality for the purposes of Reasonable Potential analysis.

2. **Groundwater Monitoring – Not Applicable**

E. Other Monitoring Requirements

1. **Biosolids Monitoring**

Biosolids monitoring for compliance with 40 C.F.R. part 503 regulations is not included in this Order since it is a program administered by U.S. EPA. The webpage below provides information on compliance with U.S. EPA's part 503 biosolids program:

https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

2. **Water Supply Monitoring**

Water supply monitoring is required to evaluate the source of salinity in the wastewater.

3. **Filtration System Monitoring**

Filtration system monitoring for turbidity is required for Dischargers of tertiary treated wastewater that meet the eligibility criteria in section I.B.4 of this General Order to determine compliance with the filtration system operating specifications in section VII.C.4.a of this General Order.

4. **UV Disinfection System Monitoring**

UV system monitoring and reporting are required for Dischargers that utilize UV disinfection to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by DDW and the NWRI Guidelines.

5. **Pond Monitoring**

Pond monitoring is required to ensure proper operation of treatment and storage ponds.

6. **Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program**

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires major permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There

are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

IX. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for discharges of treated municipal wastewater to surface waters of the United States. As a step in the WDR's adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR's adoption process. After adoption of these WDR's, a copy of each Notice of Applicability will be made available prior to issuance by the Executive Officer, to the Discharger, U.S. EPA, and interested persons.

A. Notification of Interested Persons

The Central Valley Water Board notified municipal wastewater Dischargers with existing individual NPDES permits, and interested agencies, and persons of the Central Valley Water Board's intent to prescribe general WDR's for municipal wastewater Dischargers that meet objectives/criteria at the point of discharge to surface water and provided an opportunity to submit written comments and recommendations. Notification was provided through specific mailings on 5 July 2017, distribution through the Central Valley Water Board Listserve Email System, and through publication on 8 July 2017 in major newspapers for the following communities: Fresno, Redding and Sacramento.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Officer at the Central Valley Water Board at the address on the cover page of this Order, or via email to RB5S-NPDES-Comments@waterboards.ca.gov.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due by 5:00 p.m. on 4 August 2017.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	11 August 2017
Time:	9:00 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region

11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The supporting documents and comments received are on file and may be inspected at the Regional Water Quality Control Board address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the general WDR's and NPDES permit should contact the Central Valley Water Board, reference the general WDR's and NPDES permit, and provide a name, address, and phone number.

G. Additional Information

For additional information or questions regarding this General Order, please find the appropriate contact for your county from the list under "NPDES Permitting Contacts". You will find the contact list on the Central Valley Water Board's website by searching alphabetically for "Surface Water Discharges (NPDES)" at the following web address:
http://www.waterboards.ca.gov/centralvalley/about_us/phone_list/#Ss

ATTACHMENT G – CALCULATION OF WQBEL'S

The Central Valley Water Board calculated water quality-based effluent limitations (WQBEL's) as described in section V.C.4 of the Fact Sheet (Attachment F). This General Order includes WQBEL's calculated for various coefficients of variation (CV's) ranging from 0.1 to 4.0; however, the summary tables below only show calculations for a CV of 0.6. In the summary tables below, a default translator of 1 was used for calculating the example effluent limitations for metals. For parameters with both human health and aquatic life objectives/criteria, the final effluent limitations established in this General Order are based on the lower of the effluent limitations based on the aquatic life objectives/criteria and human health objectives/criteria.

Human Health WQBEL's Calculations – MUN USE								
Parameter	**Units**	**Criteria**	**MDEL/AMEL Multiplier**	**AMEL Multiplier**	**AWEL/AMEL Multiplier**	**AMEL**	**AWEL**	**MDEL**
Priority Pollutants								
Arsenic, Total Recoverable	µg/L	10	2.01	1.55	1.73	10	--	20
Bis (2-ethylhexyl) phthalate	µg/L	1.8	2.01	1.55	1.73	1.8	--	3.6
Chlorodibromomethane	µg/L	0.41	2.01	1.55	1.73	0.41	--	0.82
Copper, Total Recoverable	µg/L	1,300	2.01	1.55	1.73	1,300	--	2,600
Cyanide, Total (as CN)	µg/L	150	2.01	1.55	1.73	150	--	300
Dichlorobromomethane	µg/L	0.56	2.01	1.55	1.73	0.56	--	1.1
Lead, Total Recoverable	µg/L	15	2.01	1.55	1.73	15	--	30
Tetrachloroethylene	µg/L	0.8	2.01	1.55	1.73	0.80	--	1.6
Zinc, Total Recoverable	µg/L	5,000	2.01	1.55	1.73	5,000	--	10,000
Non-Conventional Pollutants								
Aluminum, Total Recoverable	µg/L	200	2.01	1.55	1.73	310[1]	620[1]	--
Fluoride, Total	mg/L	2.0	2.01	1.55	1.73	3.1[1]	6.2[1]	--
Foaming Agents (MBAS)	mg/L	0.5	2.01	1.55	1.73	0.78[1]	1.6[1]	--
Manganese, Total Recoverable	µg/L	50	2.01	1.55	1.73	78[1]	160[1]	--
Nitrate Plus Nitrite (as N)	mg/L	10	2.01	1.55	1.73	10	17[2]	--
Nitrite, Nitrogen (as N)	mg/L	1	2.01	1.55	1.73	1	1.7[2]	--

[1] Calculated by setting the LTA equal to the Primary or Secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated from the AMEL using the MDEL/AMEL multiplier. (Table 2 of the SIP).

[2] Calculated by multiplying the AMEL by the AWEL/AMEL multiplier.

Human Health WQBEL's Calculations – NO MUN USE								
Parameter	**Units**	**Criteria**	**MDEL/AMEL Multiplier**	**AMEL Multiplier**	**AWEL/AMEL Multiplier**	**AMEL**	**AWEL**	**MDEL**
Priority Pollutants								
Bis (2-ethylhexyl) phthalate	µg/L	5.9	2.01	1.55	1.73	5.9	--	12
Chlorodibromomethane	µg/L	34	2.01	1.55	1.73	34	--	68
Cyanide, Total (as CN)	µg/L	220,000	2.01	1.55	1.73	220,000	--	440,000
Dichlorobromomethane	µg/L	46	2.01	1.55	1.73	46	--	92
Tetrachloroethylene	µg/L	8.85	2.01	1.55	1.73	8.9	--	18
Non-Conventional Pollutants								
Manganese, Total Recoverable	µg/L	100	2.01	1.55	1.73	160[1]	310[1]	--

[1] Calculated by setting the LTA equal to the Primary or Secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated from the AMEL using the MDEL/AMEL multiplier. (Table 2 of the SIP).

Aquatic Life WQBEL's Calculations														
Parameter	**Units**	**Criteria Dilution Factors**		**Aquatic Life Calculations**							**Final Effluent Limitations**		
		CMC	**CCC**	**ECA Multiplier$_{acute}$**	**LTA$_{acute}$**	**ECA Multiplier$_{chronic}$**	**LTA$_{chronic}$**	**AMEL Multiplier$_{95}$**	**AWEL Multiplier**	**MDEL Multiplier$_{99}$**	**AMEL [1]**	**AWEL [2]**	**MDEL [3]**
Priority Pollutants													
Arsenic, Total Recoverable	µg/L	340	150	0.32	110	0.53	79	1.55	2.68	3.11	120	--	250
Copper, Total Recoverable	µg/L	3.1[4]	2.4[4]	0.32	0.98	0.53	1.2	1.55	2.68	3.11	1.5	--	3.1
Cyanide, Total (as CN)	µg/L	22	5.2	0.32	7.1	0.53	2.7	1.55	2.68	3.11	4.3	--	8.5
Lead, Total Recoverable	µg/L	11[4]	0.41[4]	0.32	3.4	0.53	0.22	1.55	2.68	3.11	0.34	--	0.67
Zinc, Total Recoverable	µg/L	31[4]	31[4]	0.32	9.8	0.53	16	1.55	2.68	3.11	15	--	31

Aquatic Life WQBEL's Calculations													
Parameter	Units	Criteria Dilution Factors		Aquatic Life Calculations							Final Effluent Limitations		
		CMC	CCC	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL [1]	AWEL [2]	MDEL [3]
Non-Conventional Pollutants													
Aluminum, Total Recoverable	µg/L	750	87	0.32	240	0.53	46	1.55	2.68	3.11	71	120	--
Ammonia Nitrogen, Total (as N)	mg/L	5.62[5]	0.5[6]	0.32	1.8	0.78	0.39	1.2	2.68	3.11	0.46	1.0	--

1 Average Monthly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 95th percentile occurrence probability.
2 Average Weekly Effluent Limitations are calculated according to Section 1.4 of the SIP using a 98th percentile occurrence probability.
3 Maximum Daily Effluent Limitations are calculated according to Section 1.4 of the SIP using a 99th percentile occurrence probability.
4 CMC and CCC will be calculated based on the receiving water hardness. Example CMC and CCC calculated based on a hardness of 20 mg/L $CaCO_3$.
5 CMC will be calculated based on the maximum permitted pH or on the maximum observed effluent pH, whichever is lower. Example CMC calculated based on a pH of 8.0.
6 CCC will be calculated based on the downstream receiving water pH and temperature. Example WQBEL calculations shown for a CCC of 0.5 mg/L.